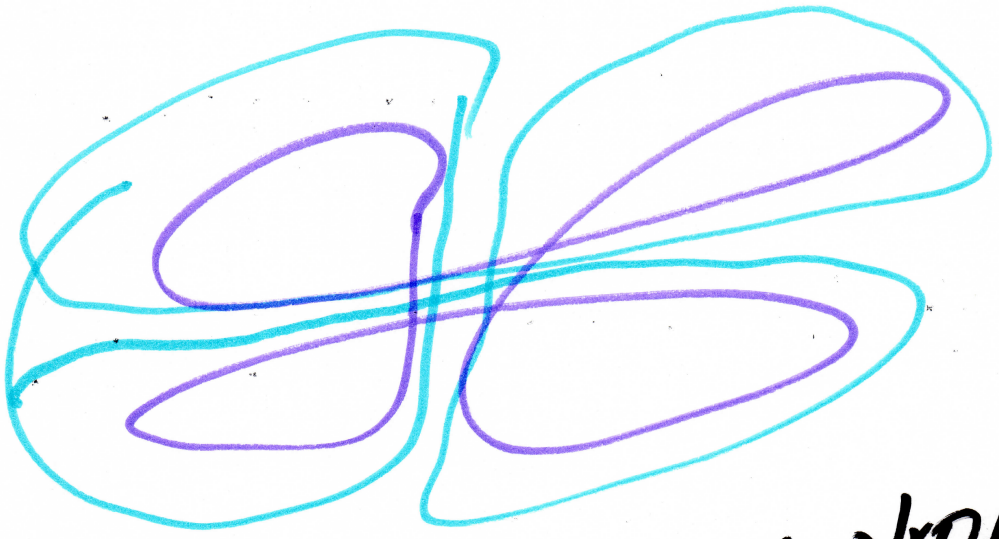
Amount of Medicine

=

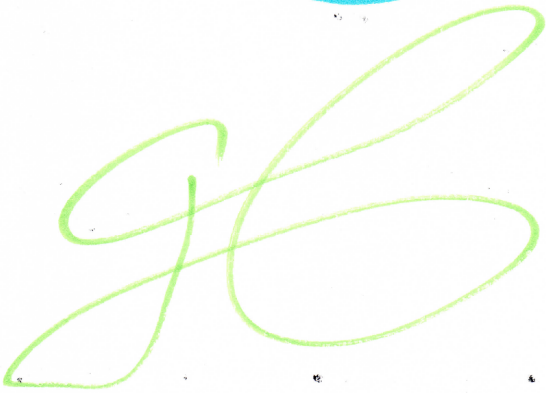
Plasma Concentration x Volume of Distribution

by

Takomedi



THE KEY of Pharmakokinetics



2018 NOV

LET'S GO

PRESCRIBE

A Thing or a

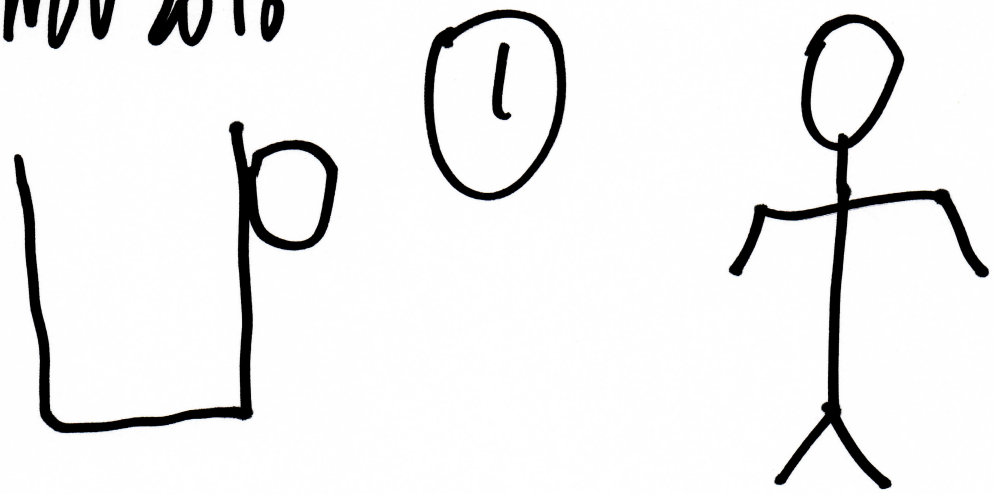
med

2018

ABOO . B. S. Fatally

Ø (1) NOU

NOV 2018



A Container

A Person

FILL

Container

with

Water

A

Person

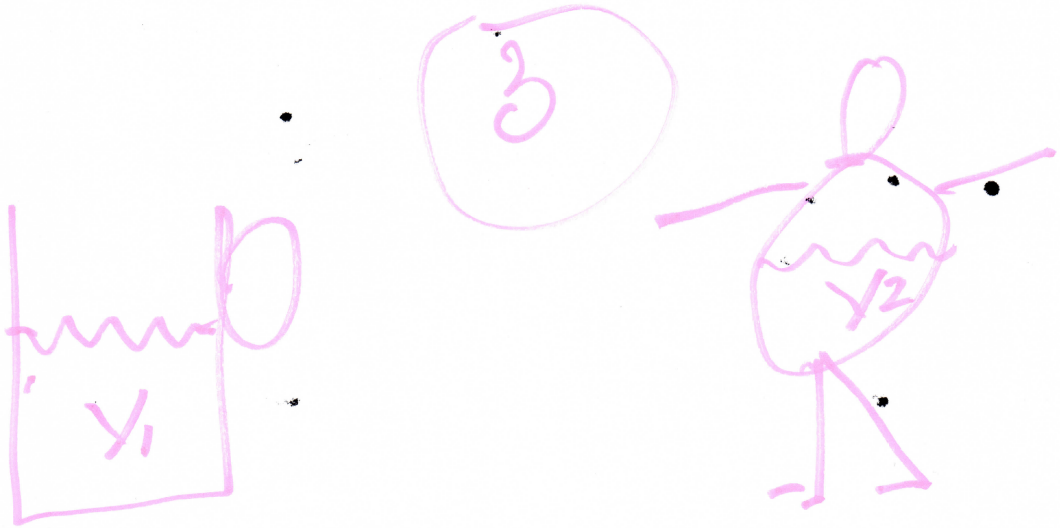
already

have

a

volume

p 2



Y = volume = Unknown amount

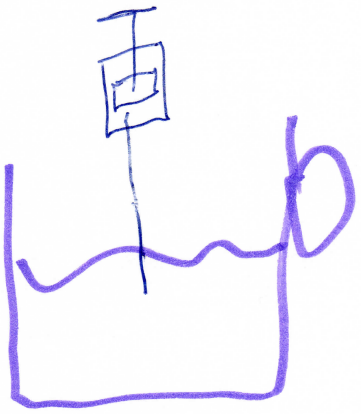
Add 1 gm of Salt in Y_1

(4)

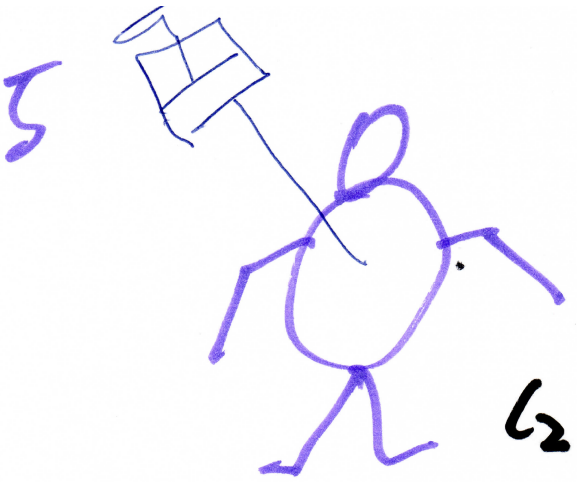
Give One Tab of 500mg Paracetamol

P (3)

5 NOV 2018



C_1



C_2

Draw a sample from container C_1 and C_2

C_1 is container

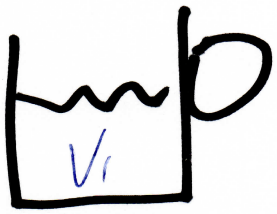
C_2 is Person

Send both to lab for Test of Concentration

DO

15 Nov

LAB RESULTS



1mg/ml of Salt for 1gm of Salt

8mg/L of Paracetamol for 500ml

Nov 2018

SALT

for 1mL

there is

1mg

so

for

1000mg

there is

1000mL

in

1 LITRE

Vd =

Volume of

distribution

is the Vd

Paracetamol

for 8mg

there is

1000mL

so

for

1mL

there is

0.008mg

0.008 x 5l = 0.40g

0.40g x 1000 = 40g

40g mg of Paracetamol

p6

Q6

So given ① a volume distribution ② a plasma concentration after ① hour ③ the paracetamol concentration is 408

Q7

To Summarize.

(A) EVERY DRUG HAS a volume of distribution

(B) Give a known amount

(C) Collect the lab result for concentration

(D) Multiply Vd x concentration

THE AMOUNT OF Drug in the body is THUS OBTAINED

IMPLEMENTATION

When the amount of drug in the body is known at any one time, the toxicity, clinically, peak level is thus known for maximum treatment against the disease or microorganism

PA PO

BEGIN

Google a drug

for its

Volume of Distribu

tion

then take

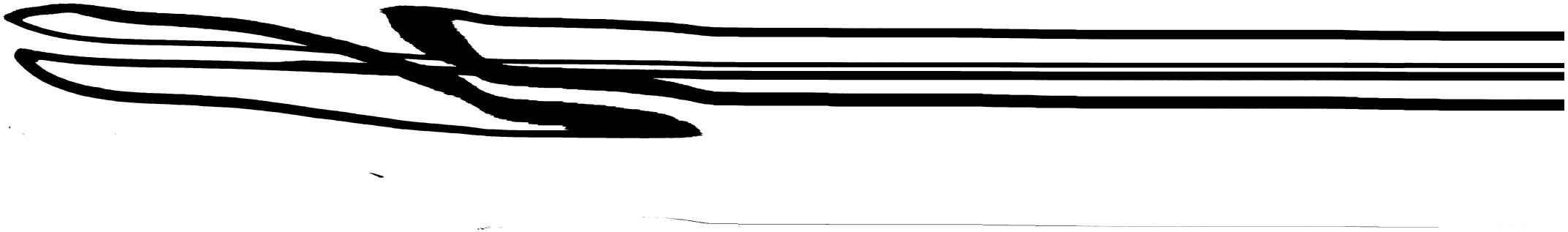
the concentration

and

GET THE Amount of Drug

46

USE THE
Amount of Drug in
the body to
monitor treatment,
toxicity and Efficacy



GB

Sunday 4 Nov

2018

Sodnal

NMP

Mr Suren
0820
4nn

Drug Absorption

1. Direct diffusion through lipid
2. Pinocytosis
3. Factors
4. BNF
5 Concentration gradient
6 Lipid Solubility
7. Polarity
   - Non-Polar (No charge)
   - Polar (Charge positive / Negative)

8 Polarity ↑ lipid Solubility ↓

Polar ↓ ↑ water Solubility ↑

+, − hydrophylic

absorbed in H_2O with +, − charge.

Drug Absorpt

→ membrane → lipid Soluble
No charge + ve −

→ + charge water Soluble ← Aqueous pores

not

absorption through membrane — lipid
No polars

water — + Pores

NAP

Ionisation + lipid soluble

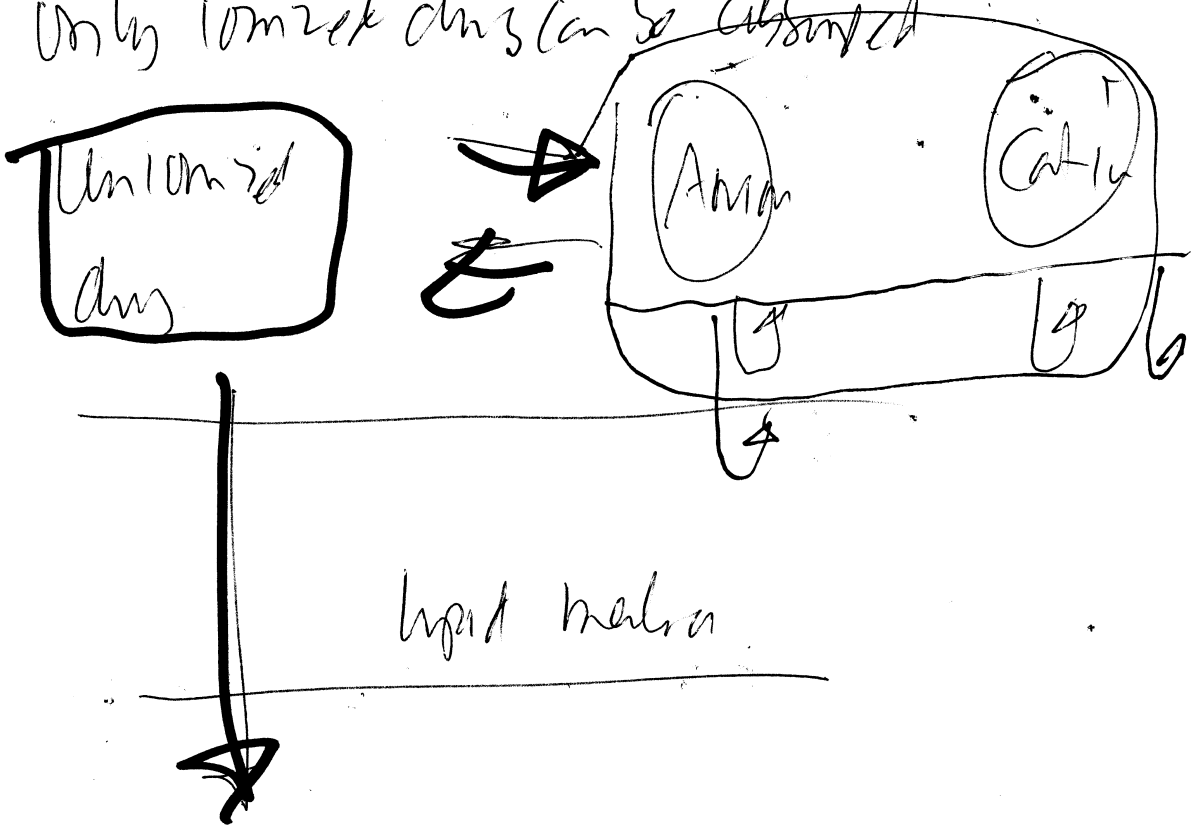
Mr Sure

Gaon

Weak acids – Weak base

Ionised = charge Unionized Uncharged

Only Unionized drugs can be absorbed



Ionized forms attract in water H_2O

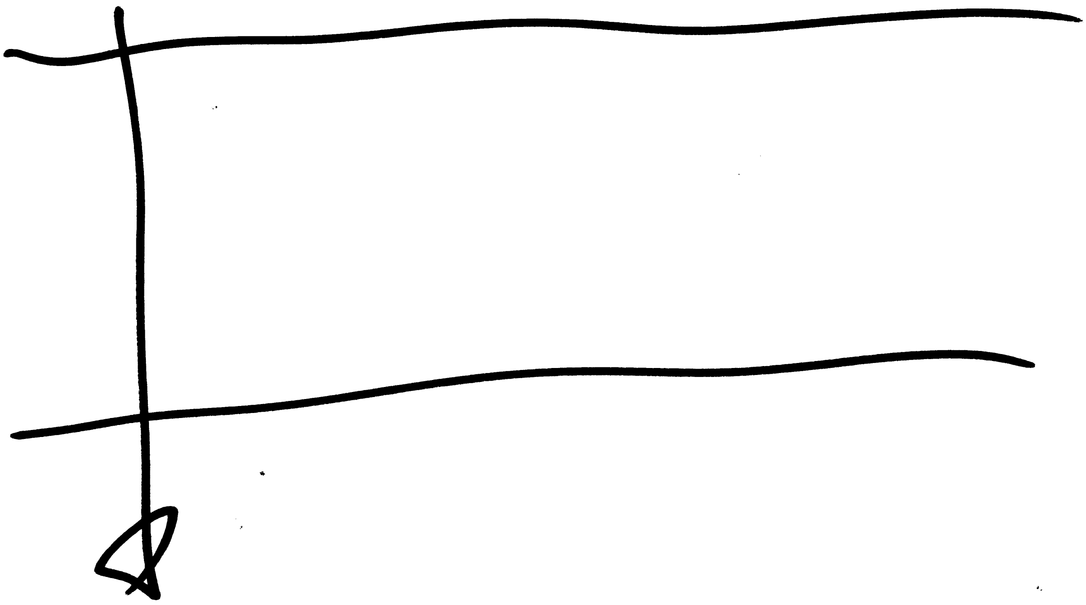
Exam

SF

Nov3

Ionization and liquid solutions
For a weakly acid

$$AH \rightleftharpoons A^- + H^+$$



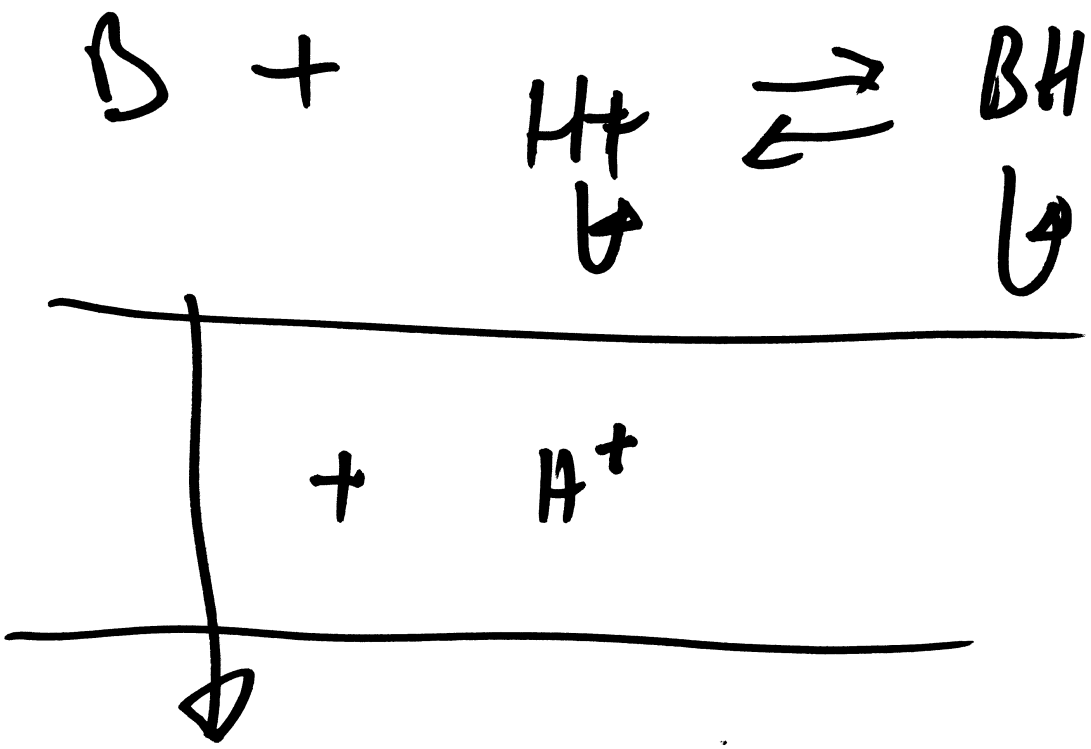
NMP

P4

Curva

Nov 4

For a weak basic drug...



NMP

L7 Anadic

PS

Effect of pH on Drug [illegible]

Sura

4hw

Weakly acid

Aspirin

less ionised

at high pH

Acid forms absorption

Weak base

Amines

less ionised

at high pH

alkaline

form

absorption

? ions determine Acid or base pH Acid base.

absorption

Acid [illegible] less ionised low pH

base [illegible] less ionised high pH Alkaline [illegible]

Acidic [illegible] less ionised low pH Acid [illegible]

P6

Sure

A solution is called a buffer solution?

? Ionization is related to acid/base.

? Can an acid behave a base
Can a base behave an acid.
if the charge increase does loss increase.

Acid is less ionized high PH

base ⇒ less

Base < ionized ↑ PH Alkaline

Alkaline [OH⁻] ↓

Acid < [OH⁻] ↑ PH Acidic

NaOH

87

Nov 4

JG

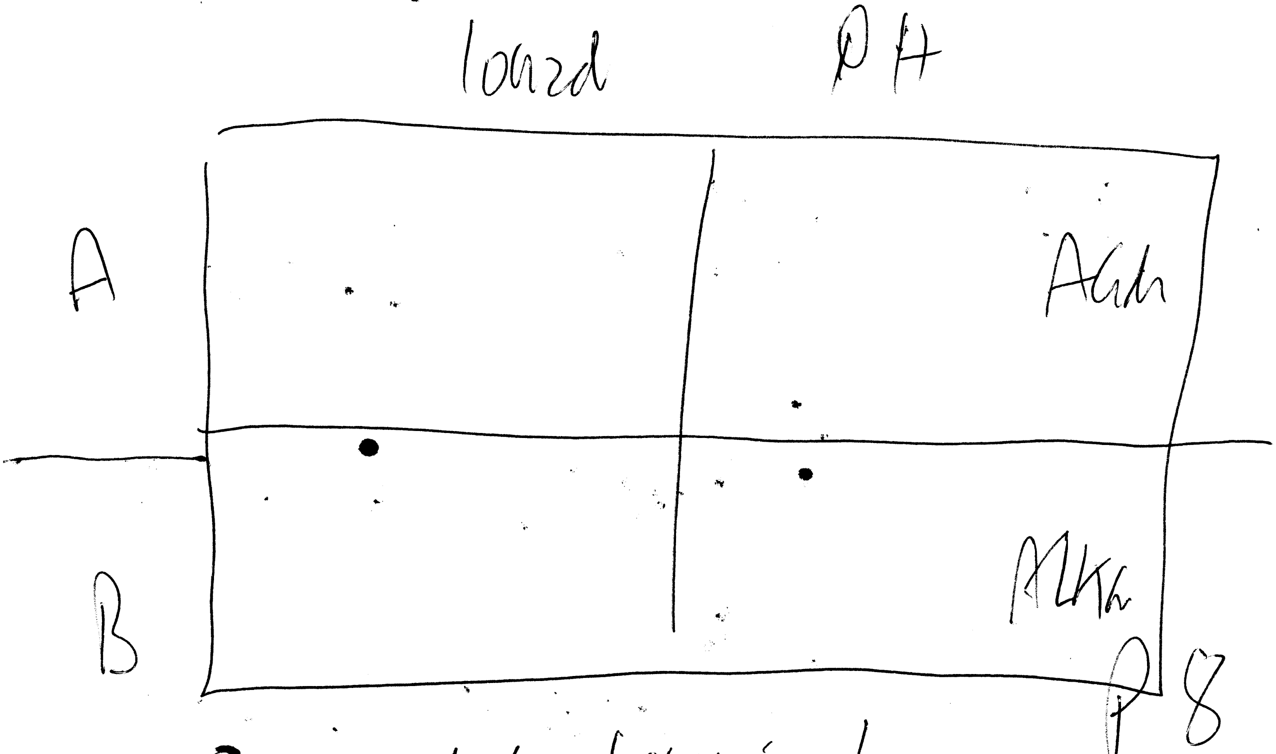
Sara
Nov 4

JG

A/B >< pH H/Ac

Acidic Ionized pH = Acid

Base Ionized pH = Base alkaline



WAP? is a clear solution base with ions & charge

Drug Distribution

1. Vascular
2. Extracellular
3. Intracellular

} Compartment

$V_d = \frac{\text{Dose}}{\text{Concentration in Plasma}}$

$V_d = \frac{\text{Dose}}{\text{Concentration in Plasma}}$

Susan

W3 Drug Distribution.

The next slide answer to question at the present slide

One slide ahead explain to present slide

If the concentration is 1mg/L from lab

1mg/L from lab

$\therefore L = \frac{1\,mg}{5\,\frac{mg}{L}} = 5\,L$

So give

42L

$40\,L = \frac{5\,mg}{8\,mg/L}$ 40L

$\frac{\times 40}{5}$

$V_d = \frac{10\,mg}{1\,mg/L} = 10\,L$

$5 \div \frac{8}{1}$

$5 \times \frac{1}{8}$

$mg\,T \div \frac{mg\,B}{L}$

$5 \div$

$mg\,T \times \frac{L}{mg\,B}$

$mg \div \frac{mg}{L}$

$m \times \frac{L}{mg}$

P10

Dosage Calculation

mg

Total

measured
concentration
1 mg/L
} plasma.

$V_d = \frac{10\,mg}{1\,mg/L} = 10L.$

$1\,mg/L = \frac{1\,g}{x\,mg/L}$

$12L = \frac{1\,g}{x\,mg/L}$

$y = 12L \times x\,mg/L$

$12L = \frac{x}{0.17\,g/kg}$

$V = 12L \times 0.1\,g/kg$

$\frac{L^2}{L} \quad 12.$

P11

Dosage Calculation

Sure

nov 24

$$V_d = \frac{\text{Dose}}{x\ \text{mg/L}} = V_d.$$

↓

Plasma concentration

$$\text{Dose} = V_d \times x\ \text{mg/L}$$

$$x\ \text{mg/L} = \frac{\text{Dose}}{V_d}$$

p12

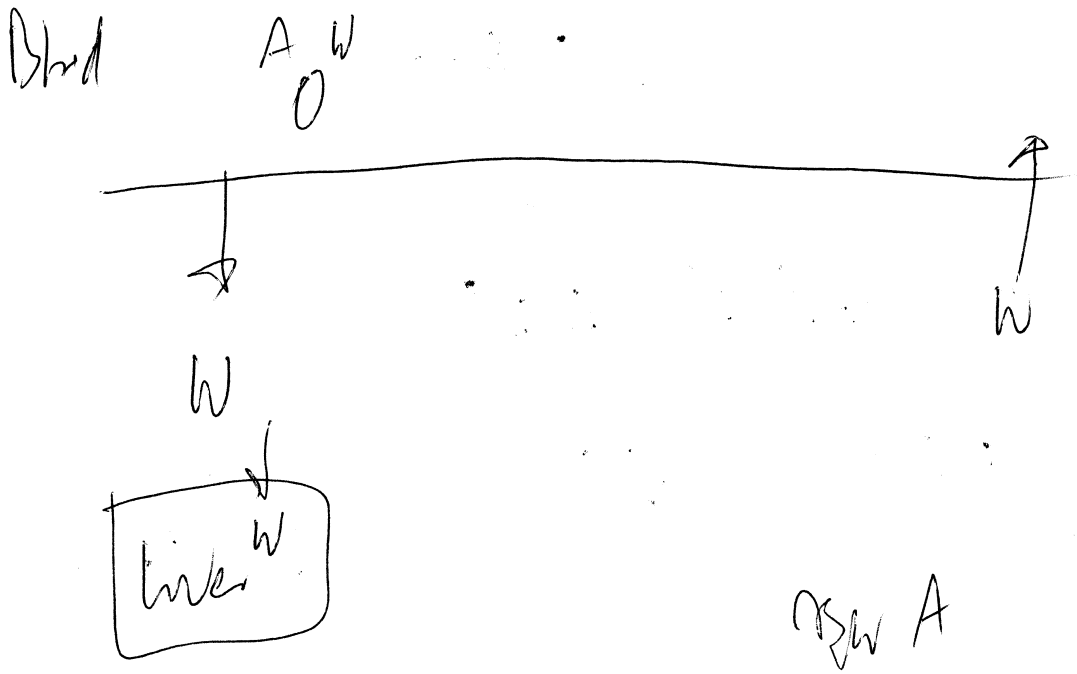
p

Absorption

MOV 4

Sweat

Plasma protein Binding



2nd

Ink

Antiangiotensin II

Plasma Protein Binding

Albumin

P13

86

LTC

Nov 4

11:30

Submission of LTC May, June 2019 was started - in this class

1. Supportive Services

2. Disease management

3. Case management < Holistic

- Condition Etiology of disease
- history
- complication
- admission times

treat in community by agreement < results, coordinate, +

P 14

in Malaysia

Models

1. NHS
2. Chrome Case model
3. expanded Chrome Case model
4. The Continuity Case Model
5. Kaiser Permanente
6. Harvey Case model

* mixe model
7. create a model to suit the pts.

Long Term Conditions List.

1 depression

2 - dementia

3 obesity

4 Epilepsy

5 Diabetes

6 · Cancers

7 ·

LTC

16